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     FILE 'CAPLUS, WPIDS, MEDLINE, JAPIO' ENTERED AT 19:03:40 ON 27 JUN 2003
L1           244 S ((CONTROLLED OR SUSTAINED OR EXTENDED OR SLOW) (3A) RELEAS?)
L2             8 S L1 AND (LITHIUM (10A) HIGH)
L3           236 S L1 NOT L2
L4           212 DUP REM L1 (32 DUPLICATES REMOVED)
L5            11 S L4 AND (EUDRAGIT?)

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=> d 1-8 bib hit

L2 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1998:491733 CAPLUS
DN 129:225177
TI The ups and downs of oral lithium dosing
AU Kilts, Clinton D.
CS Dep. Psychiatry Behavioral Sci., Emory Univ. School Med., Atlanta, GA, 30322, USA
SO Journal of Clinical Psychiatry (1998), 59(Suppl. 6, Lithium in the Treatment of Manic-Depressive Illness: An Update), 21-26
CODEN: JCLPDE; ISSN: 0160-6689
PB Physicians Postgraduate Press
DT Journal; General Review
LA English
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB A review with 29 refs. As a mood-stabilizing agent, lithium has a long history of documented efficacy as well as risks assocd. with its use. Relative to other psychiatric medications, lithium exhibits a no. of unique pharmacokinetic properties. The use of in vivo NMR spectroscopy of the 7Li isotope has immense potential for providing an improved understanding of the pharmacokinetic basis of lithium response and nonresponse. The conventional use of orally administered immediate-release prepns. of **lithium** salts in psychiatry is assocd. with **high** postabsorptive blood **lithium** concns. and trough **lithium** concns. in later phases of lithium elimination. These ups and downs of blood lithium concns. are assocd. with acute lithium toxicity and symptomatic states, resp. The use of **slow-release lithium** formulations represents a long-available means of diminishing the postdose variation in serum **lithium** concns. A need exists for head-to-head comparisons of the pharmacokinetics and clin. response relationships for **slow-release** and immediate-**release lithium** formulations.

L2 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1994:541416 CAPLUS
DN 121:141416
TI Design and preparation of **controlled-release** dosage forms of **lithium** carbonate in rabbits
AU Krlmaz, L.; Karasulu, E.; Katranc, N.; Kasabodlu, I.; Tudlular, I.; Kayal, A.
CS Faculty Pharmacy, Ege University, Izmir, 35100, Turk.
SO European Journal of Drug Metabolism and Pharmacokinetics (1993), (SPEC. ISSUE, PROCEEDINGS OF THE FIFTH EUROPEAN CONGRESS OF BIOPHARMACEUTICS AND PHARMACOKINETICS, 1993), 33-9
CODEN: EJDPD2; ISSN: 0378-7966
DT Journal
LA English
TI Design and preparation of **controlled-release** dosage forms of **lithium** carbonate in rabbits
AB The purpose of this study was to develop a controlled-release drug delivery system (CRDDS) which would eliminate the pronounced peak concn. (obtained within 1-2 h after peroral administration of a soln. or a conventional capsule or tablet) and to maintain the serum concn. at steady state within a desired range. The pharmacokinetics of lithium carbonate in rabbits was investigated and the pharmacokinetics parameters were calcd. A formulation was developed which resulted in a first-order release close to the desired theor. release. In vivo evaluations were done in rabbits by administering conventional, controlled-and sustained-release tablets. The **high** peak and fluctuations in the serum **lithium** concns., obtained by the administration of the conventional tablet, were eliminated and the steady state serum lithium

concns. were obtained.
ST **lithium** carbonate **controlled release**
IT Drug bioavailability
(of **lithium** carbonate, from **controlled-release** tablets)
IT Pharmaceutical dosage forms
(tablets, **controlled-release**, **lithium** carbonate, prepn. and bioavailability of)
IT Pharmaceutical dosage forms
(tablets, **sustained-release**, **lithium** carbonate, prepn. and bioavailability of)
IT 554-13-2P, **Lithium** carbonate
RL: SPN (Synthetic preparation); PREP (Preparation)
(**controlled-release** tablets, prepn. and bioavailability of)

L2 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1994:491626 CAPLUS
DN 121:91626
TI High porosity polymeric carbon ware for controlled release of drugs
AU Ila, D.; Jenkins, G. M.; Zimmerman, R. L.; Evelyn, A. L.
CS Cent. Irradiation Mater., Alabama A and M Univ., Normal, AL, 35762-1447, USA
SO Materials Research Society Symposium Proceedings (1994), 331(Biomaterials for Drug and Cell Delivery), 281-5
CODEN: MRSPDH; ISSN: 0272-9172
DT Journal
LA English
IT 7447-41-8, **Lithium** chloride, uses
RL: BIOL (Biological study)
(in **high** porosity polymeric carbon prepn. for **controlled release** of drugs)

L2 ANSWER 4 OF 8 WPIDS (C) 2003 THOMSON DERWENT
AN 1981-36186D [20] WPIDS
TI Oral tablets for **slow release** of **lithium** carbonate - useful as antidepressants with quick redn. of **high** concn. serum peak.
DC A96 B05 B06
IN PATEL, V K; POWELL, D R
PA (ROWE-N) ROWELL LABS INC
CYC 1
PI US 4264573 A 19810428 (198120)*
PRAI US 1979-40789 19790521; US 1981-258133 19810427
TI Oral tablets for **slow release** of **lithium** carbonate - useful as antidepressants with quick redn. of **high** concn. serum peak.
AB US 4264573 A UPAB: 19930915
Pharmaceutical tablet compsn. for oral admin. contains 70-80% Li2CO3, 5-15% excipient (with water solubility of 1:1-1:20 by wt. at 20 deg. C), 2-7% binder, 5-15% excipient (with water solubility of 1:1-1:6 by wt. at 20 deg. C), 0.9-3.3% di wall lubricant, 0.1-0.2% surfactant and 0.15-0.35% dis- integrating agent, all % values being by wt. The active ingredient has a slow zero order in vivo release rate and a defined plasma concn. time curve due to controlled surface erosion of the tablet after admin.
With the tablets **slow release** of the **Li2CO3** is achieved and the release rate and release curve shape can be controlled to maximise in vivo bioavailability of the **Li2CO3**, while simultaneously minimising adverse side effects. The Li salt is used as an antidepressant often used in the treatment of manic depressant subjects. The initial high concn. peak of Li ion in the blood is quickly reduced.
TT TT: ORAL TABLET **SLOW RELEASE LITHIUM** CARBONATE USEFUL ANTIDEPRESSANT QUICK REDUCE **HIGH**

CONCENTRATE SERUM PEAK.

L2 ANSWER 5 OF 8 MEDLINE
AN 1998337690 MEDLINE
DN 98337690 PubMed ID: 9674933
TI The ups and downs of oral lithium dosing.
CM Comment in: J Clin Psychiatry. 1998;59 Suppl 6:35-6
AU Kilts C D
CS Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta, GA 30322, USA.
SO JOURNAL OF CLINICAL PSYCHIATRY, (1998) 59 Suppl 6 21-6; discussion 27.
Ref: 29
Journal code: 7801243. ISSN: 0160-6689.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199807
ED Entered STN: 19980811
Last Updated on STN: 20021227
Entered Medline: 19980729
AB As a mood-stabilizing agent, lithium has a long history of documented efficacy as well as risks associated with its use. Relative to other psychiatric medications, lithium exhibits a number of unique pharmacokinetic properties. The use of in vivo nuclear magnetic resonance spectroscopy of the 7Li isotope has immense potential to provide an improved understanding of the pharmacokinetic basis of lithium response and nonresponse. The conventional use of orally administered immediate-release preparations of **lithium** salts in psychiatry is associated with **high** postabsorptive blood **lithium** concentrations and trough **lithium** concentrations in later phases of lithium elimination. These ups and downs of blood lithium concentrations are associated with acute lithium toxicity and symptomatic states, respectively. The use of **slow-release** **lithium** formulations represents a long available means of diminishing the postdose variation in serum **lithium** concentrations. A significant need exists for head-to-head comparisons of the pharmacokinetics and clinical response relationships for **slow** **-release** and immediate-**release** **lithium** formulations.

L2 ANSWER 6 OF 8 MEDLINE
AN 94044204 MEDLINE
DN 94044204 PubMed ID: 8227758
TI The comparative efficacy of carbamazepine low and **high** serum level and **lithium** carbonate in the prophylaxis of affective disorders.
AU Simhandl C; Denk E; Thau K
CS University Clinic of Vienna, Department of Psychiatry, Austria.
SO JOURNAL OF AFFECTIVE DISORDERS, (1993 Aug) 28 (4) 221-31.
Journal code: 7906073. ISSN: 0165-0327.
CY Netherlands
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199312
ED Entered STN: 19940117
Last Updated on STN: 19940117
Entered Medline: 19931203
TI The comparative efficacy of carbamazepine low and **high** serum

level and **lithium** carbonate in the prophylaxis of affective disorders.

AB The prophylactic efficacy of carbamazepine **slow release** (CBZ) at ke different blood levels and **lithium** carbonate **slow release** (LI) was compared in a retrospective/prospective, randomized, 2-year open trial. 84 patients with a DSM-III-R diagnosis of recurrent affective disorder who had no prophylactic medication in the 2 years preceding the trial (no LI nonresponders), were randomly allocated to three treatment groups: CBZ low (15-25 mumol/l), CBZ high (28-40 mumol/l) and LI (0.6-0.8 mumol/l). Fifty-eight patients completed the full observation period of 2 years, 26 patients dropped out. There were no statistically significant differences in the efficacy of the prophylactic treatment for bipolar patients. For the unipolar patients, the group with a low CBZ serum level showed no reduction in the duration of episodes. The two other treatment groups seem to be equal in attenuation of a unipolar course of an affective disorder.

L2 ANSWER 7 OF 8 MEDLINE
AN 82283757 MEDLINE
DN 82283757 PubMed ID: 6810866
TI Pharmacokinetics of standard (lithicarb) and **sustained-release** (Priadel) **lithium** carbonate preparations in patients.
AU Johnson G F; Hunt G E; Lewis J; St George B
SO AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY, (1982 Mar) 16 (1) 64-8. Journal code: 0111052. ISSN: 0004-8674.
CY Australia
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 198210
ED Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19821012
TI Pharmacokinetics of standard (lithicarb) and **sustained-release** (Priadel) **lithium** carbonate preparations in patients.
AB Equivalent oral dosages (800 mg, 21.6 mmol) of a standard (Lithicarb) and a **sustained-release** (Priadel) **lithium** carbonate preparation were administered to six patients receiving **lithium** maintenance treatment using a randomized cross-over design. There were no significant differences in the two preparations for 24 hour plasma level curves, 24 hour bioavailability, peak plasma concentrations (Cmax), time to peak plasma concentrations (Tmax) or urinary excretion rates. These results are in agreement with a previous study using Priadel in healthy volunteers, and indicate that Priadel is a delayed-release, rather than a true sustained-release preparation. In order to maintain therapeutic plasma levels and to minimise adverse effects that may occur with **high** plasma **lithium** levels, Priadel needs to be administered in divided dosages rather than as a single daily dose.

L2 ANSWER 8 OF 8 JAPIO COPYRIGHT 2003 JPO
AN 2002-284694 JAPIO
TI MULTIPARTICLE OF LITHIUM SALT FOR ORAL ADMINISTRATION SUITABLE FOR ONCE-DAILY ADMINISTRATION
IN VALDUCCI ROBERTO; ALIGHIERI TIZIANO; AVANESSIAN SEROZH
PA VALPHARMA SA
PI JP 2002284694 A 20021003 Heisei
AI JP 2002-28704 (JP2002028704 Heisei) 20020205
PRAI IT 2001-MI20010220 20010205

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002

AB PROBLEM TO BE SOLVED: To solve problems associated with ordinary lithium salt preparations, such as a need for repeated administration during the daytime due to rapid gastrointestinal absorption, and to provide a **lithium** salt preparation having a **high** active ingredient strength, which is suitable for once-daily administration.
SOLUTION: This multiparticle of **lithium** salt admin for oral administration comprises **sustained release** granules modified with acrylic acid, methacrylic acid or a cellulose derivative, or the like, or a mixture of conventional **sustained release** granules and the modified **sustained release** granules.

L5 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 2002:591664 CAPLUS
DN 137:129922
TI Multiparticulate formulations of lithium salts for once-a-day administration
IN Valducci, Roberto; Alighieri, Tiziano; Avanessian, Serozh
PA Valpharma S.A., San Marino
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1228763	A1	20020807	EP 2002-2523	20020203
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002172727	A1	20021121	US 2002-67624	20020204
AU 2002015437	A5	20020808	AU 2002-15437	20020205
JP 2002284694	A2	20021003	JP 2002-28704	20020205
BR 2002000377	A	20021015	BR 2002-377	20020205
NZ 517053	A	20021126	NZ 2002-517053	20020205
PRAI IT 2001-MI220	A	20010205		

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Multiparticulate formulations contg. up to 1000 mg of lithium salts suitable for once-a-day oral administration are described. The formulations are in the form of microgranules or microtablets characterized by the fact that the microgranules or microtablets have either modified or mixed modified and conventional drug release properties. For example, 4.5 kg lithium carbonate powder was granulated in a fluidized bed app. using 600 g of a 5% ethanolic soln. of polyvinylpyrrolidone and 2100 g of ethanol. Granules obtained were sieved for the particle size of 700-1000 .mu.m. One kilogram of granules were then spray coated with a soln. contg. 400 g 10% ethanolic soln. of **Eudragit** L, 320 g ethanol and 8 g di-Et phthalate. Coated granules obtained were gastroresistant while they dissolve at the intestinal pH value. Granules were filled in capsules to obtain dosages of 50-800 mg lithium carbonate.

ST **lithium** salt **sustained release** capsule granule tablet

IT Drug delivery systems
(capsules, **sustained-release**; multiparticulate formulations of **lithium** salts for once-a-day administration)

IT Drug delivery systems
(granules, **sustained release**; multiparticulate formulations of **lithium** salts for once-a-day administration)

IT Drug delivery systems
(tablets, **sustained-release**; multiparticulate formulations of **lithium** salts for once-a-day administration)

IT 57-11-4, Stearic acid, biological studies 57-50-1, Saccharose, biological studies 64-17-5, Ethanol, biological studies 84-66-2, Diethyl phthalate 546-89-4, Lithium acetate 554-13-2, Lithium carbonate 7439-93-2D, Lithium, salts 9003-39-8, Polyvinylpyrrolidone 9004-38-0, Cellulose acetate phthalate 9004-57-3, Ethyl cellulose 9004-65-3, Hydroxypropyl methyl cellulose 9010-88-2, **Eudragit** NE 30D 9050-31-1, Hydroxypropyl methyl cellulose phthalate 10377-48-7, Lithium sulfate 14807-96-6, Talc, biological studies 16992-28-2, Lithium thiosulfate 25212-88-8, **Eudragit** L 30D 25322-68-3, Polyethylene glycol 32253-37-5, Lithium glutamate 33434-24-1, **Eudragit** RS 51822-44-7, **Eudragit** L
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multiparticulate formulations of lithium salts for once-a-day

administration)

L5 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 2002:88776 CAPLUS
DN 137:174726
TI Effect of three different diets on the bioavailability of a **sustained release lithium** carbonate matrix tablet
AU Gai, M. N.; Thielemann, A. M.; Arancibia, A.
CS Department of Science and Pharmaceutical Technology, Faculty of Chemical and Pharmaceutical Sciences, University of Chile, Santiago, 1, Chile
SO International Journal of Clinical Pharmacology and Therapeutics (2000), 38(6), 320-326
CODEN: ICTHEK; ISSN: 0946-1965
PB Dustri-Verlag Dr. Karl Feistle
DT Journal
LA English
RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Effect of three different diets on the bioavailability of a **sustained release lithium** carbonate matrix tablet
AB Food-induced changes on the bioavailability of a **sustained release lithium** carbonate matrix tablet, which uses an acrylic matrix of **Eudragit** RSPM as sustaining agent, have been studied in healthy male volunteers. The tablet was developed in the authors' lab. using conventional technol. The study design was a 4 .times. 4 Latin square involving 12 subjects who received a single dose of the tablet while fasting or with a standardized normal, high fat or high fat/high protein meal. The results showed no differences in half-life.beta., renal clearance, Vd.beta., AUC, tmax, X.infin.u, fraction absorbed and MRT. Higher Cmax (mg/l) were obtained when the tablet was administered with any kind of meal: 2.09.+-.0.47 (fast), 2.95.+-.1.04 (normal diet), 2.64.+-.0.54 (high fat diet) and 2.87.+-.0.67 (high fat/high protein diet). The anal. of the ratio Cmax/AUC indicated that changes in Cmax were more probably due to changes in the rate of absorption. To evaluate if the magnitude of the change could be clin. relevant, Cmax and C at 12 h (dosing interval) were treated by the superposition method to establish max. and min. concns. at steady-state. For all the exptl. conditions both concns. would remain in the therapeutic range (4.2-10 mg/l or 0.6-1.4 mEq/l). The behavior of the formulation is appropriate for a sustained release tablet and fasting or non-fasting state seems not to be a major consideration for bioavailability when deciding on the regimen administration.
ST **sustained release** tablet **lithium** bioavailability food
IT Drug bioavailability
Food
Human
(effect of three different diets on bioavailability of **sustained release lithium** carbonate matrix tablet)
IT Diet
(high-fat, high-protein; effect of three different diets on bioavailability of **sustained release lithium** carbonate matrix tablet)
IT Drug delivery systems
(tablets, **sustained-release**; effect of three different diets on bioavailability of **sustained release lithium** carbonate matrix tablet)
IT 554-13-2, **Lithium** carbonate
RL: PKT (Pharmacokinetics); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect of three different diets on bioavailability of

sustained release lithium carbonate matrix tablet)

IT 33434-24-1, **Eudragit** RSPM
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect of three different diets on bioavailability of **sustained release lithium** carbonate matrix tablet)

L5 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1999:722355 CAPLUS
DN 132:255859
TI Studies on the release kinetics of **lithium** carbonate **controlled release** matrix - based formulations
AU Aboofazeli, R.; Mortazavi, S. A.; Ranjbaran, S.
CS School of Pharmacy, Shaheed Beheshti University of Medical Sciences, Tehran, 6153, Iran
SO Proceedings of the International Symposium on Controlled Release of Bioactive Materials (1999), 26th, 523-524
CODEN: PCRMEY; ISSN: 1022-0178
PB Controlled Release Society, Inc.
DT Journal
LA English
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Studies on the release kinetics of **lithium** carbonate **controlled release** matrix - based formulations
AB The highest release of lithium carbonate was obsd. in the presence of **Eudragit** RLPO and the lowest release was obsd. when **Eudragit** RLPO was replaced by Carbopol 974P. By using Carbomer compds. in the **controlled-release** formulations, the least serum level fluctuations of **Li2CO3** were achieved, resulting in decreased adverse effects.
ST **controlled release** matrix **lithium** carbonate
IT Drug delivery systems
(**controlled-release**; **release** kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT Drug delivery systems
(granules; release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT Digestive tract
Dissolution rate
(release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT Polymers, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT Drug delivery systems
(tablets, **controlled-release**; **release** kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT Granulation
(wet; release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT 554-13-2, **Lithium** carbonate
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)
IT 9003-97-8, Polycarbophil 57916-92-4, Carbopol 934P 151687-96-6, Carbopol 974P 178806-61-6, **Eudragit** RLPO
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(release kinetics of **lithium** carbonate **controlled release** matrix-based formulations)

L5 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1999:112188 CAPLUS
DN 130:301587
TI Evaluation of the in vitro and in vivo performance of two **sustained-release lithium** carbonate matrix tablets. effect of different diets on the bioavailability
AU Gai, M. N.; Ferj, S.; Garcia, E.; Seitz, C.; Thielemann, A. M.; Andonaegui, M. T.
CS Department of Science and Pharmaceutical Technology, Faculty of Chemical and Pharmaceutical Sciences, University of Chile, Santiago, Chile
SO Drug Development and Industrial Pharmacy (1999), 25(2), 131-140
CODEN: DDIPD8; ISSN: 0363-9045
PB Marcel Dekker, Inc.
DT Journal
LA English
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Evaluation of the in vitro and in vivo performance of two **sustained-release lithium** carbonate matrix tablets. effect of different diets on the bioavailability
AB Two **sustained-release** (SR) **lithium** carbonate (Li) matrix tablets, which use a hydrophilic (HP) matrix of hydroxypropyl Me cellulose (Methocel 4K MP) and a lipid (L) matrix of hydrogenated castor oil (Cutina HR) as sustaining agents, were studied. In vitro performance through dissoln. tests in different media was established. The L and HP formulations were affected by the compn. of the dissoln. media, and the release was complete in 8 h by using a variable-pH medium that simulates the gastrointestinal (GI) pH. The release was better described by the diffusional model of the square root of time for the L matrix and by zero-order kinetics for the HP matrix. Abs. bioavailability (BA) and food-induced changes on BA of both formulations were studied. The in vivo study design was a 4 x 4 Latin square involving 12 subjects who received 2 tablets of a 300-mg dose of SR formulations while fasting or with a standardized normal, high-fat, or high-fat/high-protein meal. The results for both formulations had no differences in the disposition parameters and mean residence time when the tablets were administered with any type of diet. Changes in rate of absorption were found when both types of tablets were administered with any class of diet. The anal. of the ratio Cmax/AUC (area under the curve) evidenced that changes in Cmax were attributable to a higher rate of absorption for the HP matrix and to a higher amt. absorbed for the L matrix. In the last, high-fat and high-fat/high-protein diets produced higher AUCs than under fasting condition. The SR Li tablets formulated with hydrogenated castor oil were affected more by high-fat food, probably because of the increase of pancreatic and biliary secretions promoted by the meal, which would affect the matrix itself: The HP matrix was also affected, but to a lesser extent. The magnitude of the change in Cmax obsd. with this matrix probably is not important from a clin. point of view. Abs. BA was very low for the lipid matrix, in addn., since it is more seriously affected by food, probably it is not a good choice for a drug such as lithium. The in vivo behavior of the HP matrix makes it advisable to invest in efforts to achieve increased BA. Comparing in vitro and in vivo results, the focus should be achieving sustained, but complete, in vitro liberation in not more than 3 h, with simulation of the transit time through the stomach and small bowel since lithium ion is only absorbed to this point.
ST food **sustained release** tablet **lithium** bioavailability; dissoln **sustained release** tablet **lithium** bioavailability
IT Digestive tract
Dissolution rate
Drug bioavailability

Food
Pharmacokinetics
Simulation and Modeling, physicochemical
(food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT Castor oil
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogenated; food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT Drug delivery systems
(tablets, **sustained-release**; food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT 7631-86-9, Aerosil, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(colloidal; food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT 554-13-2, **Lithium** carbonate
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT 57-11-4, Stearic acid, biological studies 557-04-0, Magnesium stearate 9003-39-8, PVP 9004-65-3, Hydroxypropyl methyl cellulose 25086-15-1, **Eudragit** S100 25322-68-3, Polyethylene glycol
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

IT 9004-34-6, Avicel PH101, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(microcryst.; food effect on dissoln. and bioavailability of **lithium** carbonate from **sustained-release** matrix tablets)

L5 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1995:374907 CAPLUS
DN 122:142588
TI Controlled-release pharmaceutical compositions based on pharmaceutically acceptable salts of .gamma.-hydroxybutyric acid
IN Conte, Ubaldo; La Manna, Aldo; Tessitore, Giuseppe
PA Laboratorio Farmaceutico C.T. S.r.l., Italy
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 635265	A1	19950125	EP 1994-111279	19940720
	EP 635265	B1	20000202		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 75150	A2	19970428	HU 1994-2077	19940712
	AT 189384	E	20000215	AT 1994-111279	19940720
	US 5594030	A	19970114	US 1994-278517	19940721
	PL 176211	B1	19990531	PL 1994-304389	19940721
	RU 2140266	C1	19991027	RU 1994-26104	19940721
	JP 07053365	A2	19950228	JP 1994-191998	19940722
	JP 2930875	B2	19990809		

PRAI IT 1993-MI1631 A 19930722

AB Controlled-release oral pharmaceutical compns. contain as the active principle .gtoreq.1 GABA salt with a pharmaceutically acceptable cation for treatment of alcoholism, addiction to opiumlike substances, heroin addiction, food and nicotine addiction, depression, and anxiety. The compns. comprise (a) a nucleus in the form of granules or tablets contg. an active principle dispersed in a cellulosic matrix, and optionally (b) a protective film coating. Thus, granules were prepd. from GABA Na salt 1000, ethylcellulose 50, Methocel K100M 150, talc 60, and Mg stearate 18 mg, pressed into tablets, and coated with a soln. of **Eudragit** RS100 1.20, **Eudragit** RL100 4.80, and di-Et phthalate 0.30 g in 100 mL acetone/iso-PrOH (50:50).

IT 56-12-2D, GABA, salts 502-85-2, Sodium .gamma.-hydroxybutyrate 9004-57-3, Ethylcellulose 9004-64-2, Hydroxypropylcellulose 9004-65-3, Hydroxypropylmethylcellulose 9004-67-5, Methylcellulose 57769-01-4, Potassium .gamma.-hydroxybutyrate 63255-29-8, **Lithium** .gamma.-hydroxybutyrate 70582-09-1 161123-13-3
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**controlled-release** pharmaceutical compns. based on pharmaceutically acceptable salts of .gamma.-hydroxybutyric acid)

IT 5039-78-1D, polymers 9003-39-8, PVP 25322-68-3 33434-24-1, **Eudragit** RS100
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(film coating; controlled-release pharmaceutical compns. based on pharmaceutically acceptable salts of .gamma.-hydroxybutyric acid)

L5 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS

AN 1994:442626 CAPLUS

DN 121:42626

TI Formulation of **controlled-release lithium** carbonate tablets by a fluidized-bed technique

AU Rafiee-Tehrani, Morteza; Haddad, Tahereh

CS Sch. Pharm., Tehran Med. Sci. Univ., Teheran, Iran

SO European Journal of Pharmaceutics and Biopharmaceutics (1993), 39(2), 87-91
CODEN: EJPBEL; ISSN: 0939-6411

DT Journal

LA English

TI Formulation of **controlled-release lithium** carbonate tablets by a fluidized-bed technique

AB **Controlled-release** tablets of **Li2CO3** were prepd. by the fluidized-bed technique by coating granules with various polymers including **Eudragit** L 100 (I), S 100 (II), RL 100 (III) 50:50 I + II, 50:50 III + RS 100 (IV), Et cellulose (V), and 50:50 IV + V. The drug release medium was mostly distd. water, but the effect of pH on drug release behavior was also investigated with other media. Suitable release characteristics were exhibited on coating with IV, V, and 50:50 IV + V, which exhibited 1st order kinetics for drug release conformable with a diffusion-controlled process. Drug release was faster from tablets coated with I and II due to the effect of the polymer on the pH of the dissoln. media.

ST **controlled release lithium** carbonate tablet; fluidized bed lithium carbonate tablet

IT Granulation
(fluidized-bed, in **controlled-release lithium** carbonate tablets prepn.)

IT Pharmaceutical dosage forms
(tablets, **controlled-release, lithium** carbonate, fluidized-bed technique in prepn. of)

IT 554-13-2P, **Lithium** carbonate
RL: SPN (Synthetic preparation); PREP (Preparation)
(**controlled-release** tablets, fluidized-bed technique in prepn. of)

IT 9004-57-3, Ethyl cellulose 25086-15-1, **Eudragit** S 100

33434-24-1, **Eudragit** RL 100 51822-44-7, **Eudragit** L
RL: BIOL (Biological study)
(**lithium** carbonate **controlled-release**
tablets contg., fluidized-bed technique in prepn. of)

L5 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1993:109491 CAPLUS
DN 118:109491
TI In vivo evaluation of two **controlled release**
lithium carbonate tablets
AU Gai, M. N.; Storpirtis, S.; Garcia, P.; Costa, E.; Thielemann, A. M.; Arancibia, A.
CS Fac. Cienc. Quim. Farm., Univ. Chile, Santiago, Chile
SO Lithium (1992), 3(3), 221-3
CODEN: LITHER; ISSN: 0954-1381
DT Journal
LA English
TI In vivo evaluation of two **controlled release**
lithium carbonate tablets
AB A **lithium** carbonate **controlled release**
tablet was evaluated in vivo and compared with a conventional
lithium carbonate tablet. Changes in the first formulation were
made in order to achieve a better performance. The modified formulation
showed a **sustained release** pattern and did not show
differences in the amt. of **lithium** absorbed in comparison to the
conventional tablet.
ST **lithium** carbonate pharmacokinetics **controlled**
release tablet; bioavailability **lithium** carbonate
controlled release tablet
IT Drug bioavailability
(of **lithium** carbonate, from **controlled-**
release tablets, in humans)
IT Pharmaceutical dosage forms
(tablets, **controlled-release**, acrylic
matrix-contg., **lithium** carbonate pharmacokinetics from, in
humans)
IT 7439-93-2, **Lithium**, biological studies
RL: BIOL (Biological study)
(absorption of, from **lithium** carbonate **controlled-**
release tablets, in humans)
IT 25086-15-1, **Eudragit** S 100 33434-24-1, **Eudragit** RS
PM
RL: BIOL (Biological study)
(**controlled-release** tablets contg., **lithium**
carbonate pharmacokinetics from, in humans)
IT 554-13-2, **Lithium** carbonate
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(pharmacokinetics of, from **controlled-release**
tablets, in humans)

L5 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1990:241340 CAPLUS
DN 112:241340
TI Formulation and in vitro-in vivo evaluation of **sustained-**
release lithium carbonate tablets
AU Ciftci, Kadriye; Capan, Yilmaz; Ozturk, Orhan; Hincal, A. Atilla
CS Fac. Pharm., Univ. Hacettepe, Ankara, Turk.
SO Pharmaceutical Research (1990), 7(4), 359-63
CODEN: PHREEB; ISSN: 0724-8741
DT Journal
LA English
TI Formulation and in vitro-in vivo evaluation of **sustained-**
release lithium carbonate tablets

AB The release of Li2CO3 incorporated into poly(Me methacrylate), PVC, hydrogenated vegetable oil, and Carbomer matrix tablets was studied in vitro. The formulation contg. 10% Carbomer showed a **sustained-release** profile comparable to that of a std., com. available, **sustained-release** prepn. contg. 400 mg **Li2CO3** embedded in a composite material. In vivo, the newly formulated and std. **sustained-release Li2CO3** tablets were compared to an oral soln. and conventional **Li2CO3** in 12 healthy subjects. These crossover studies showed that the sustained-release tablets produced a flatter serum concn. curve than the oral soln. and conventional tablet, without loss of total bioavailability.

ST **sustained release lithium** carbonate tablet

IT Solution rate
(of **lithium** carbonate, from **sustained-release** matrix-contg. tablets)

IT Drug bioavailability
(of **lithium** carbonate, from **sustained-release** matrix-contg. tablets in humans)

IT Pharmaceutical dosage forms
(tablets, **sustained-release**, of **lithium** carbonate, formulation and bioavailability in humans of matrix-contg.)

IT Oils, glyceridic
RL: PRP (Properties)
(vegetable, hydrogenated, **lithium** carbonate **sustained-release** tablets contg. matrix of Lubritab, formulation and bioavailability in humans of)

IT 9002-86-2, PVC 57916-92-4, Carbopol 934P 101525-98-8, **Eudragit** RSPM
RL: PRP (Properties)
(**lithium** carbonate **sustained-release** tablets contg. matrix of, formulation and bioavailability in humans of)

IT 554-13-2, **Lithium** carbonate
RL: PRP (Properties)
(**sustained-release** tablets, formulation and bioavailability in humans of matrix-contg.)

L5 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS

AN 1989:560244 CAPLUS

DN 111:160244

TI Sustained-release pharmaceutical compositions with good solubility in the gastrintestinal tract

IN Kovacs, Istvan; Mucsi, Imre; Bacsa, Gyorgy; Tassy, Zsolt, Mrs.; Racz, Istvan; Mezey, Janos; Gyorgy Vago, Magdolna; Aszeva, Elena; Esztero, Magdolna; et al.

PA Biogal Gyogyszergyar, Hung.

SO Hung. Teljes, 21 pp.
CODEN: HUXXBU

DT Patent

LA Hungarian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	HU 46532	A2	19881128	HU 1987-2119	19870512
	HU 201670	B	19901228		
PRAI	HU 1987-2119		19870512		

AB Pharmaceuticals, specifically particles of salts of inorg. cations with inorg. or org. anions, are coated using aq. filmogenic dispersion, as well as solns. of hydrophobic cellulose derivs. and silicone resins, in org. solvents. KCl (10,000 g) particles were coated with an aq. suspension of 1000 g **Eudragit** NE30D and 950 g talcum, followed by drying and application of a 2nd coat from a soln. of 250 g ethylcellulose, 250 g methylsilicone resin and 50 g di-Et phthalate in Me2CO-EtOH (1:1). The coated articles were encapsulated into gelatin capsules. The in vitro dissoln. of KCl was 18.45, 61.22 and 89.50% at 1, 3 and 6 h, resp.

IT 554-13-2, **Lithium** carbonate 7447-40-7, Potassium chloride, biological studies 7693-13-2, Calcium citrate 7733-02-0 12125-02-9, Ammonium chloride, biological studies
RL: BIOL (Biological study)
(**sustained-release** coated particles)
IT 9004-57-3, Ethylcellulose 9010-88-2, **Eudragit** NE 30D
RL: BIOL (Biological study)
(sustained-release coating contg., for cation salt particles)

L5 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1987:219622 CAPLUS
DN 106:219622
TI Controlled release tablet
IN Ventouras, Kimon
PA Zyma S. A., Switz.
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 213083	A2	19870304	EP 1986-810381	19860825
	EP 213083	A3	19880203		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	US 4784858	A	19881115	US 1986-899112	19860822
	FI 8603429	A	19870301	FI 1986-3429	19860825
	IL 79836	A1	19900917	IL 1986-79836	19860825
	ES 2001897	A6	19880701	ES 1986-1418	19860827
	DK 8604095	A	19870301	DK 1986-4095	19860828
	AU 8662033	A1	19870305	AU 1986-62033	19860828
	AU 592363	B2	19900111		
	JP 62051614	A2	19870306	JP 1986-200230	19860828
	ZA 8606533	A	19870429	ZA 1986-6533	19860828
	HU 41642	A2	19870528	HU 1986-3721	19860828
	HU 195736	B	19880728		
PRAI	GB 1985-21494		19850829		

AB A controlled release tablet comprising a core, contg. as essential components (a) at least one water-sol. pharmaceutically active substance which is dispersed in a water-insol., non-digestible polymeric excipient, and (b) a water-insol. polymeric substance, which is swellable under the influence of water, and a coating consisting essentially of an elastic, water-insol. and semipermeable diffusion film of a polymer, is presented, which shows a release pattern for the active substance(s) in a programmed rate of approx. 0 order. Granules made of a mixt. of 1.687 kg proxyphylline, 1.687 kg diprophylline, 1.125 kg anhyd. theophylline and 300 g 1% aq. poly(vinylpyrrolidone) are sprayed with 1.5 kg 30% **Eudragit**-E30D. A mixt. of 0.45 kg Avicel PH-102, 0.025 kg Mg stearate, and 0.009 kg Aerosil-200 was added to the granules, at the granules were compressed into tablets. The tablets were coated with a mixt. of **Eudragit** E30D 0.187, lactose 0.046, talc 0.047, Tween-80 0.004 kg, indigotin lake 1.5 g and TiO2 0.75g in 500 g H2O.
IT 58-55-9, Theophylline, biological studies 153-18-4D, Rutin, O-.beta.-hydroxyethyl derivs. 479-18-5, Diprophylline 603-00-9, Proxyphylline 7439-93-2D, **Lithium**, salts 7440-70-2D, Calcium, salts 7447-40-7, Potassium chloride, biological studies 7681-49-4, Sodium fluoride, biological studies
RL: BIOL (Biological study)
(tablets, **controlled-release**)

L5 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS
AN 1985:32249 CAPLUS
DN 102:32249
TI Solid oral medicament

IN Minczinger, Stefan; Frimm, Richard
PA Czech.
SO Czech., 3 pp.
CODEN: CZXXA9
DT Patent
LA Slovak
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CS 217688	B	19830128	CS 1981-1191	19810219
PRAI CS 1981-1191		19810219		

AB Tablet formulations for the treatment of depressive states contain **Li2CO3**, fillers, and excipients coated with a polymer which permits **sustained release** of Li on contact with a liq. Thus, a powd. mixt. of Li2CO3 and milk sugar was granulated with a 10% gelatin hydrogel. The granulate was dried to a moisture content of 2%, coated in a fluid bed at 50.degree. with an aq. dispersion of **Eudragit** E 30D [9010-88-2], homogenized with talc and Ca stearate and pressed into 0.65-g tablets contg. 0.5 g Li2CO3.
ST **lithium** carbonate tablet **sustained release**
IT 9010-88-2
RL: BIOL (Biological study)
(**sustained-release** tablets contg. **lithium** carbonate and)

=>

(FILE 'HOME' ENTERED AT 19:03:17 ON 27 JUN 2003)

FILE 'CAPLUS, WPIDS, MEDLINE, JAPIO' ENTERED AT 19:03:40 ON 27 JUN 2003

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L1          244 S ((CONTROLLED OR SUSTAINED OR EXTENDED OR SLOW) (3A) RELEAS?)
L2            8 S L1 AND (LITHIUM (10A) HIGH)
L3          236 S L1 NOT L2
L4          212 DUP REM L1 (32 DUPLICATES REMOVED)
L5           11 S L4 AND (EUDRAGIT?)
L6          201 S L4 NOT L5
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Selectively Printed out best hits

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=> d 16 32 36 41 42 43 47 50 51 69 76 93 94 99 100 104 105 110 112 131-134 139 140
151 158 bib hit
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L6 ANSWER 32 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1994:638251 CAPLUS
DN 121:238251
TI Pharmacokinetics after one single dosage of a new **sustained release lithium** sulfate preparation in comparison to **lithium** carbonate
AU Kolk, A.; Kathmann, N.; Greil, W.; Kauert, G.
CS Psychiatric Hospital, Ludwig-Maximilians-University, Munich, 80336, Germany
SO Lithium (1994), 5(2), 91-4
CODEN: LITHER; ISSN: 0954-1381
DT Journal
LA English
TI Pharmacokinetics after one single dosage of a new **sustained release lithium** sulfate preparation in comparison to **lithium** carbonate
ST **lithium** pharmacokinetics **controlled release**
IT Drug bioavailability
(pharmacokinetics after one single dosage of **sustained release lithium** sulfate and **lithium** carbonate compns.)
IT Pharmaceutical dosage forms
(**controlled-release**, pharmacokinetics after one single dosage of **sustained release lithium** sulfate and **lithium** carbonate compns.)
IT 554-13-2, **Lithium** carbonate 10377-48-7, **Lithium** sulfate
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(pharmacokinetics after one single dosage of **sustained release lithium** sulfate and **lithium** carbonate compns.)

L6 ANSWER 36 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1994:307295 CAPLUS
DN 120:307295
TI Single-dose bioavailability of two **extended-release** **lithium** carbonate products
AU Kirkwood, Cynthia K.; Wilson, Sheila K.; Hayes, Peggy E.; Barr, William H.; Sarkar, Mohamadi A.; Ettigi, Prakash G.
CS Dep. Pharm. and Pharm., Va. Commonw. Univ., Richmond, VA, 23298-0533, USA
SO American Journal of Hospital Pharmacy (1994), 51(4), 486-9
CODEN: AJHPA9; ISSN: 0002-9289
DT Journal
LA English
TI Single-dose bioavailability of two **extended-release** **lithium** carbonate products
AB The single-dose bioavailabilities of 2 **extended-release** **lithium** carbonate products and an immediate-release product were compared. Nonsmoking healthy volunteers ages 20-31 were randomly assigned to 1 of 3 groups and given 3 treatments, each sepd. by a 1-wk period. The treatments, which were given to each group in a different sequence, consisted of 3 300-mg immediate-release **lithium** carbonate tablets (Lithotab), 2 450-mg **extended-release** **lithium** carbonate tablets (Eskalith CR), and 3 300-mg **extended-release lithium** carbonate tablets (Lithobid). Plasma and urine lithium concns. were detd. by flame-emission spectrophotometry, and lithium pharmacokinetic values and the cumulative urinary excretion of lithium were computed. Mean max. plasma lithium concn. (Cmax) differed significantly among all 3 lithium carbonate products. Eskalith CR produced a 40% lower Cmax and Lithobid a 25% lower Cmax than Lithotab; Lithobid produced a 23% higher Cmax than Eskalith CR. Lithotab had a significantly shorter mean time to max. plasma **lithium** concn. than either **extended-release** product. Mean cumulative urinary excretion of lithium did not differ significantly among the three products. Two **extended-release lithium** carbonate products were not bioequivalent when given in single doses to healthy volunteers.
ST bioavailability **extended release lithium** carbonate tablet; bioequivalence **extended release** **lithium** carbonate tablet
IT Drug bioavailability
(of **lithium** carbonate, single-dose, from **extended-release** tablets in humans)
IT Pharmaceutical dosage forms
(tablets, **sustained-release**, **lithium** carbonate bioavailability from, single-dose, in humans)
IT 554-13-2, **Lithium** carbonate 7439-93-2, **Lithium**, biological studies
RL: PROC (Process)
(bioavailability of, single-dose, from **extended-release** tablets in humans)

L6 ANSWER 41 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1992:241955 CAPLUS
DN 116:241955
TI Slow-release compositions for treatment of manic depression
IN Newton, John Michael; Qiu, Jing; O'Brien, Paul
PA London School of Pharmacy Innovations Ltd., UK
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9204032	A1	19920319	WO 1991-GB1452	19910829
	W: AU, CA, FI, HU, JP, KR, NO, PL, SU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	CA 2090613	AA	19920301	CA 1991-2090613	19910829
	AU 9184380	A1	19920330	AU 1991-84380	19910829
	EP 546020	A1	19930616	EP 1991-915549	19910829
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 5415878	A	19950516	US 1993-39391	19930421
PRAI	GB 1990-18839		19900829		
	WO 1991-GB1452		19910829		

ST lithium titanate tablet manic depression; antidepressant **lithium** **slow release** tablet
IT Pharmaceutical dosage forms
(oral, **sustained-release**, of **lithium** titanate, for manic depression treatment)
IT Pharmaceutical dosage forms
(tablets, **sustained-release**, of **lithium** titanate, for manic depression treatment)
IT 39302-37-9P, **Lithium** titanate
RL: PREP (Preparation)
(prepn. and **slow-release** tablet manuf. of, for treatment of manic depression)

L6 ANSWER 42 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1992:181161 CAPLUS
DN 116:181161
TI Manufacture of **sustained-release lithium** carbonate tablets
IN Muederrisoglu, Ali; Capan, Yilmaz; Hincal, Atilla A.; Ciftci, Kadriye
PA Turk.
SO Eur. Pat. Appl., 4 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 471100	A1	19920219	EP 1990-115559	19900814
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
PRAI EP 1990-115559		19900814		

TI Manufacture of **sustained-release lithium** carbonate tablets
AB A **sustained-release Li2CO3** (I) tablet comprises I 50-70, lactose 20-25, carbomer 5-15, and Mg stearate (II) 2%. The pharmaceutical is useful in treating mania (no data). The tablet shows considerably reduced high peak blood levels avoiding gastrointestinal side effects of Li and provides extended dosing periods. A tablet contained I 400, carbomer 60, lactose 135, and II 6mg. The release of I was studied in volunteers.
ST **sustained release lithium** carbonate carbomer
IT Drug bioavailability
(cof **sustained-release lithium** carbonate)
IT Pharmaceutical dosage forms
(tablets, **sustained-release**, of **lithium** carbonate, for treatment of mania)
IT 63-42-3, Lactose 9007-20-9, Carbomer
RL: BIOL (Biological study)
(**sustained-release** tablet of **lithium** carbonate contg., for treatment of mania)
IT 554-13-2, **Lithium** carbonate
RL: BIOL (Biological study)
(**sustained-release** tablet of, for treatment of mania)

have this

L6 ANSWER 43 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1992:46197 CAPLUS
DN 116:46197
TI Steady-state **lithium** concentrations with conventional and **controlled-release** formulations
AU Arancibia, A.; Flores, P.; Pezoa, R.
CS Fac. Cienc. Quim. Farm., Univ. Chile, Santiago, Chile
SO Lithium (1990), 1(4), 237-9
CODEN: LITHER; ISSN: 0954-1381
DT Journal
LA English
TI Steady-state **lithium** concentrations with conventional and **controlled-release** formulations
AB A **controlled-release Li2CO3** prepn. was compared to a conventional **Li2CO3** tablet in ten normal volunteers. The study was performed in a crossover fashion. At the steady-state the controlled-release prepn. produced a smoother serum concn. curve than the conventional tablet, showing a lower Cmax and a delayed tpeak. No differences were found in the AUC values of both prepns. The conventional tablet produced more fluctuation in Li+ concn. at the steady-state than did the controlled-release formulation.
ST **lithium** pharmacokinetics **controlled release**
IT Blood serum
(**lithium** of, from conventional and **controlled-release** formulations, in humans)
IT Drug bioavailability
(of **lithium**, from conventional and **controlled-release** formulations, in humans)
IT Pharmaceutical dosage forms
(**controlled-release**, **lithium** bioavailability and pharmacokinetics from, in humans)
IT 554-13-2, **Lithium** carbonate 7439-93-2, **Lithium**, biological studies
RL: PROC (Process)
(bioavailability of, from conventional and **controlled-release** formulations, in humans)

L6 ANSWER 50 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1991:499075 CAPLUS
DN 115:99075
TI Influence of filler excipients on the **release** rate of **sustained release lithium** carbonate tablets
AU Capan, Yilmaz; Ciftci, Kadriye; Hincal, A. Atilla
CS Fac. Pharm., Univ. Hacettepe, Hacettepe, 06100, Turk.
SO European Journal of Pharmaceutics and Biopharmaceutics (1991), 37(1), 14-18
CODEN: EJPBEL; ISSN: 0939-6411
DT Journal
LA English
TI Influence of filler excipients on the **release** rate of **sustained release lithium** carbonate tablets
IT Drug bioavailability
(of **lithium** in humans, from **sustained-release lithium** carbonate tablets, excipients effect on)
IT Solution rate
(of **lithium**, from **sustained-release lithium** carbonate tablets, excipients effect on)
IT Pharmaceutical dosage forms
(tablets, **sustained-release**, **lithium** bioavailability in humans and in vitro soln. rate from **lithium** carbonate, excipients effect on)
IT 7439-93-2, **Lithium**, properties
RL: PRP (Properties)
(bioavailability in humans and in vitro soln. rate of, from **sustained-release lithium** carbonate tablets, excipients effect on)
IT 554-13-2, **Lithium** carbonate
RL: BIOL (Biological study)
(**lithium** bioavailability in humans and in vitro soln. rate from **sustained-release** tablets of, excipients effect on)
IT 63-42-3, Lactose 7757-93-9, Dibasic calcium phosphate 9004-34-6, Avicel PH 101, biological studies 66828-18-0, Emdex
RL: BIOL (Biological study)
(tablet excipient, **lithium** bioavailability in humans and in vitro soln. rate from **sustained-release lithium** carbonate tablets response to)

L6 ANSWER 51 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1991:192422 CAPLUS
DN 114:192422
TI Formulation and in vitro evaluation of a **controlled-release lithium** carbonate tablet
AU Arancibia, A.; Mella, F.; Selman, J.; Gai, M. N.
CS Dep. Cienc. Tecnol. Farm., Univ. Chile, Santiago, Chile
SO Anales de la Real Academia de Farmacia (1990), 56(3), 333-45
CODEN: ARAFAY; ISSN: 0034-0618
DT Journal
LA Spanish
TI Formulation and in vitro evaluation of a **controlled-release lithium** carbonate tablet
AB **Controlled-release lithium** carbonate tablets were formulated by using a hydrophilic matrix of Na CM-cellulose and evaluated. Hardness of the tablet and relative humidity during the storage have negligible influence on the dissoln. characteristics in water. The effects of coating using a methacrylic resin and of the dissoln. medium on the lithium carbonate rate of dissoln. was also evaluated. The dissoln. rate const. of **lithium** carbonate in conventional tablets were 19.30 mEq/h at pH = 1.2 and 23.52 mEq/h at pH 7.5, and in the **controlled-release** tablets were 3.59 and 3.25 mEq/h in the resp. media, indicating that the hydrophilic matrix produces a delay between 5.4 and 7.2 times in comparison with the conventional tablets.
ST **lithium controlled release** tablet dissoln
IT Solution rate
(of **lithium** carbonate, from **controlled-release** tablets)
IT Pharmaceutical dosage forms
(tablets, **controlled-release**, of **lithium** carbonate, dissoln. of)
IT 24938-16-7
RL: BIOL (Biological study)
(**controlled-release** tablets for **lithium** carbonate coated with)
IT 554-13-2, **Lithium** carbonate
RL: PRP (Properties)
(dissoln. kinetics of, from **controlled-release** tablet)
IT 9004-32-4
RL: BIOL (Biological study)
(matrix, **controlled-release** tablets for **lithium** carbonate contg.)

L6 ANSWER 69 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1989:121258 CAPLUS
DN 110:121258
TI Evaluation of highly dosed sustained-release hard gelatin capsule formulations based on lipid matrix systems
AU Vial-Bernasconi, A. C.; Aebi, A.; Doelker, E.; Buri, P.; Schulz, P.; Dick, P.
CS Sch. Pharm., Univ. Geneva, Geneva, CH-1211, Switz.
SO Proc. - Eur. Congr. Biopharm. Pharmacokinet., 3rd (1987), Volume 1, 155-65. Editor(s): Aiache, J. M.; Hirtz, J. Publisher: Impr. Univ. Clermont-Ferrand, Clermont-Ferrand, Fr.
CODEN: 56LDAZ
DT Conference
LA English
IT Solution rate
(of **lithium** sulfate, from **sustained-release** capsules contg. lipid matrix)
IT Drug bioavailability
(of **lithium** sulfate, from **sustained-release** capsules contg. lipid matrix in humans)
IT 10377-48-7, **Lithium** sulfate
RL: BIOL (Biological study)
(capsules contg. lipid matrix and, **sustained** drug **release** and bioavailability from)

L6 ANSWER 76 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1988:26880 CAPLUS
DN 108:26880
TI In vitro dissolution of **controlled release** **lithium** tablets: VII. Release characteristics of a number of marketed products
AU Trigger, David J.; Davies, Peter J.
CS Delandale Lab. Ltd., Canterbury/Kent, CT1 3JF, UK
SO Medical Science Research (1987), 15(19), 1155-6
CODEN: MSCREJ; ISSN: 0269-8951
DT Journal
LA English
AB The in vitro release of Li from a variety of Li2Cl3-contg. com. products (tablets) with claimed controlled-release characteristics were studied. Dissoln. tests with acidic and neutral pH-buffered media all gave release values for Li ion from the resp. products having substantially linear relations with time over test periods. Three products, Phasal, Litarex and Liskonum have overall release rates which are very much slower than the others. For those products, where similar release rates of Li from tablets in acid and neutral pH-buffered dissoln. media are evident, it would appear that the differences in soln. rate between the acid and neutral pH buffered media relate more to the chem. reactivity of Li2CO3 with acid in the pH 1.2 dissoln. test medium than to pH sensitivity of the release control systems used.
TI In vitro dissolution of **controlled release** **lithium** tablets: VII. Release characteristics of a number of marketed products
ST **lithium controlled release** tablet; dissoln **lithium controlled release**
IT Solution rate
(of **lithium** carbonate, from **controlled-release** tablets)
IT 554-13-2, **Lithium** carbonate
RL: BIOL (Biological study)
(**controlled-release** tablets, dissoln. and release properties of)

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L6 ANSWER 93 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1984:91384 CAPLUS
DN 100:91384
TI **Sustained release lithium**-containing tablets
IN Trigger, David John
PA Delandale Laboratories Ltd., UK
SO Brit. UK Pat. Appl., 8 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2119247	A1	19831116	GB 1983-10535	19830419
	GB 2119247	B2	19850807		
	CA 1200502	A1	19860211	CA 1983-426260	19830420
	ZA 8302799	A	19840125	ZA 1983-2799	19830421
	AU 8313879	A1	19831103	AU 1983-13879	19830422
	AU 551212	B2	19860417		
	IL 68482	A1	19861231	IL 1983-68482	19830425
PRAI	GB 1982-12636		19820430		

TI **Sustained release lithium**-containing tablets
ST lithium carbonate tablet Precirol; **sustained release lithium** tablet Precirol; glyceride Precirol tablet lithium
IT Glycerides, biological studies
RL: BIOL (Biological study)
(in **sustained-release lithium** tablets)
IT Particle size
(of **lithium** carbonate, in **sustained-release** tablets contg. Precirol)
IT 8067-32-1
RL: BIOL (Biological study)
(in **sustained-release lithium** tablets)

L6 ANSWER 94 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1984:39614 CAPLUS
DN 100:39614
TI **Sustained-release lithium** carbonate tablets
IN Trigger, David John
PA Delandale Laboratories Ltd., UK
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 93538	A1	19831109	EP 1983-302216	19830419
	EP 93538	B1	19850925		
	R: AT, BE, CH, DE, LI, NL				
	AT 15760	E	19851015	AT 1983-302216	19830419
	CA 1200502	A1	19860211	CA 1983-426260	19830420
	ZA 8302799	A	19840125	ZA 1983-2799	19830421
	AU 8313879	A1	19831103	AU 1983-13879	19830422
	AU 551212	B2	19860417		
	IL 68482	A1	19861231	IL 1983-68482	19830425
PRAI	GB 1982-12636		19820430		
	EP 1983-302216		19830419		

TI **Sustained-release lithium** carbonate tablets
AB Mixing acicular crystals of **Li2CO3** (particle diam. of 10-25 .mu.m and .ltoreq.20% by vol. with diam. >30 .mu.m) with a mixt. of glyceryl mono-, di-, and triesters of satd. fatty acids, granulating the mixt., and compressing gives tablets with **sustained release** of Li. Thus, 60 kg Li2CO3 crystals (.ltoreq.10% with diams. >30 .mu.m) was mixed with mannitol 9.9, gum acacia 3, Na lauryl sulfate 0.318, Mg stearate 0.375, and corn starch 3.43 kg and heated to 70.degree.. Precirol (glyceryl esters of palmitic and stearic acid) [8067-32-1], 5.85 kg, was dissolved in 24 L methylated spirit, heated to 72.degree., and blended with the dry ingredients; 12 L H2O was added, and the mass was granulated, dried at 40.degree., screened, and compressed to tablets.
ST **lithium sustained release** tablet; Precirol lithium carbonate tablet; glyceride lithium carbonate tablet
IT Particle size
(of **lithium** carbonate, **sustained-release** tablets in relation to)
IT 8067-32-1
RL: BIOL (Biological study)
(coating material, for **sustained-release lithium** carbonate tablets)

L6 ANSWER 99 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1981:468031 CAPLUS
DN 95:68031
TI Pharmaceutical formulation for slow release via controlled surface erosion
IN Powell, David R.; Patel, Vithal K.
PA Rowell Laboratories, Inc., USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4264573	A	19810428	US 1979-40789	19790521
	US 4361545	A	19821130	US 1981-258133	19810427
	CA 1158979	A1	19831220	CA 1981-376282	19810427
PRAI	US 1979-40789		19790521		

AB Slow-release tablet formulations with min. adverse side effects are prepd. contg. an active ingredient, excipient, binder, surfactant, disintegrant, and lubricant. The active ingredient has a slow in vivo release rate due to controlled surface erosion of the tablet. Thus, a **slow-release Li2CO3** tablet formulation was prepd. contg. **Li2CO3** 300, NaCl 40, poly(vinylpyrrolidone) [9003-39-8] 15, Stearowet C [78426-80-9] 10, sorbitol [50-70-4] 40, and Na starch glycolate [9063-38-1] 1 mg. The tablets were storage-stable and showed a zero-order dissoln. rate. Similarly, slow release formulation, of theophylline [58-55-9] and quinidine [56-54-2] were prepd.

AN 1980:479970 CAPLUS
DN 93:79970
TI **Sustained-release** preparations of **lithium** carbonate
AU Hullin, R. P.
CS High Royds Hosp. Unit, Yorkshire, UK
SO International Congress Series (1979), 478(Lithium: Controversies Unresolved Issues), 341-5
CODEN: EXMDA4; ISSN: 0531-5131
DT Journal
LA English
AB Despite the difference in the in vitro dissoln. rate of Priadel compared to Camcolit, there was no difference in plasma Li profiles. A Phasal prepn. showed interindividual differences in absorption. Camcolit 400, which produces some degree of sustained release compared with Camcolit 250 had a lower bioavailability. Li salts should be given in divided dosages to assure less absorption peaks and high Li concns., esp. in glomerular filtrate, avoided.
TI **Sustained-release** preparations of **lithium** carbonate
ST **lithium** carbonate **sustained release**; bioavailability lithium carbonate
IT Digestive tract
(**lithium** carbonate absorption by, from **sustained-release** prepns.)

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L6 ANSWER 105 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1980:135428 CAPLUS
DN 92:135428
TI **Sustained release lithium** carbonate pharmaceutical tablets
IN Watson, Brian Charles Edward; McHenery, Benedict James
PA Delandale Laboratories Ltd., UK
SO Brit. UK Pat. Appl., 4 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2016922	A	19791003	GB 1979-16743	19790515
	GB 2016922	B2	19820818		
PRAI	GB 1978-6469		19780217		

TI **Sustained release lithium** carbonate pharmaceutical tablets
AB **Li2CO3** was micronized, mixed with dry filler, binding agent, and a soln. of glycerides, moist-granulated, screened, and compressed into **sustained-release** tablets. E.g., powd. Li2CO3 (2.75 .mu. particle size) and powd. mannitol (25 BS Mesh) were mixed with dried acacia gum (70.degree., 15 min). Precirol in 96% alc. at 72.degree. was poured onto the heated powd. mixt. followed by water and the whole mass kneaded, dried, and submitted to sieve anal. A granulate having 25% of the particles (12-60 BS Mesh) and 75% below 60 BS Mesh was mixed with wheat starch and Mg stearate; the resulting mixt. was tabletted.
ST **lithium** carbonate **sustained release** tablet

L6 ANSWER 110 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1978:552635 CAPLUS
DN 89:152635
TI Evaluation of a **slow-release lithium** carbonate formulation
AU Cooper, Thomas B.; Simpson, George M.; Lee, J. Hillary; Bergner, Per Erik E.
CS Clin. Psychopharmacol. Lab., Rockland Res. Inst., Orangeburg, NY, USA
SO American Journal of Psychiatry (1978), 135(8), 917-22
CODEN: AJPSAO; ISSN: 0002-953X
DT Journal
LA English
TI Evaluation of a **slow-release lithium** carbonate formulation
AB Single-dose studies on normal- and **slow-release** **Li2CO3** tablets suggested that these 2 formulations were not bioequiv. However, similiarity in the area-under-the curves of these 2 forms and almost complete recovery of Li from urine in steady state showed equal bioavailability. The slow-release formulations could be used interchangeably with the com. product, since the steady-state levels were not different with either formulation.
ST **lithium** carbonate **sustained release** tablet
IT Digestive tract
(**lithium** carbonate absorption by, from normal and **slow-release** tablets)

L6 ANSWER 112 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1977:572821 CAPLUS
DN 87:172821
TI In vitro release of lithium sulfate incorporated in the hydrophilic matrices
AU Ventouras, K.; Buri, P.
CS Lab. Pharm. Galenique, Univ. Geneve, Geneva, Switz.
SO Pharmaceutica Acta Helvetiae (1976), 51(7-8), 212-18
CODEN: PAHEAA; ISSN: 0031-6865
DT Journal
LA French
AB Controlled-release Li2SO4 tablets were prepd. by wet granulation using a hydrophilic gum, consisting mainly of polysaccharides, as the binding agent. An alc. soln. of a resin was used as the binding soln. and magnesium stearate and talc were used as lubricants. Neither the compression force nor the size of the granules had any significant effect on the in vitro release rate of the Li2SO4. Under simulated physiol. conditions, the release of Li2SO4 was not affected by the pH of the medium, the ionic conc. of the medium, the enzyme concn., or the agitation rate.
ST **lithium** sulfate **controlled release** tablet
IT Gums and Mucilages
(as vehicle, in **controlled-release lithium** sulfate tablets)

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L6 ANSWER 131 OF 201 WPIDS (C) 2003 THOMSON DERWENT
AN 1987-010907 [02] WPIDS
DNC C1987-004375
TI Mfg. **slow** drug **release** chitin mouldings - by mixing drug with mixt. contg. water insol. chitin, **lithium** chloride and n-methyl pyrrolidone and then solidifying.
DC B04
PA (NIRA) UNITIKA LTD
CYC 1
PI JP 61268616 A 19861128 (198702)* 5p
JP 07053673 B2 19950607 (199527) 4p
ADT JP 61268616 A JP 1985-111145 19850523; JP 07053673 B2 JP 1985-111145 19850523
FDT JP 07053673 B2 Based on JP 61268616
PRAI JP 1985-111145 19850523
TI Mfg. **slow** drug **release** chitin mouldings - by mixing drug with mixt. contg. water insol. chitin, **lithium** chloride and n-methyl pyrrolidone and then solidifying.
TT TT: MANUFACTURE **SLOW** DRUG **RELEASE** CHITIN MOULD MIX DRUG MIXTURE CONTAIN WATER INSOLUBLE CHITIN **LITHIUM** CHLORIDE N METHYL PYRROLIDONE SOLIDIFICATION.

L6 ANSWER 132 OF 201 WPIDS (C) 2003 THOMSON DERWENT
AN 1985-019972 [04] WPIDS
DNC C1985-008348
TI Slow, zero order rate release tablet compsn. - acting by controlled surface erosion, esp. contg. 5-amino salicylic acid as active agent.
DC A96 B07
IN PATEL, V K; POWELL, D R
PA (REDI-N) REDI-ROWELL INC; (ROWE-N) ROWELL LAB INC
CYC 18
PI EP 131485 A 19850116 (198504)* EN 28p
R: AT BE CH DE FR GB LI SE
AU 8428898 A 19850110 (198509)
NO 8402766 A 19850204 (198512)
DK 8403338 A 19850108 (198514)
ZA 8405208 A 19850110 (198518)
FI 8402528 A 19850108 (198521)
US 4539198 A 19850903 (198538)
ES 8600053 A 19860101 (198613)
CA 1224417 A 19870721 (198733)
US 4690824 A 19870901 (198737)
IL 72089 A 19870916 (198747)
EP 131485 B 19900829 (199035)
R: AT BE CH DE FR GB IT SE
IT 1180193 B 19870923 (199037)
DE 3483072 G 19901004 (199041)
ADT EP 131485 A EP 1984-401152 19840606; ZA 8405208 A ZA 1984-5208 19840706; US 4539198 A US 1983-511605 19830707; ES 8600053 A ES 1984-534096 19840706; US 4690824 A US 1985-736737 19850522
PRAI US 1983-511605 19830707; US 1985-736737 19850522
AB EP 131485 A UPAB: 19930925
Solid pharmaceutical oral tablet compsn. giving a **slow**, zero order **release** rate from tablets compressed to a hardness of 5-20 kg comprises (by wt.): (a) 10-90(50-90)% active agent, of water solubility (20 deg. C) of 1/500-1/1000 (w/w), which is not a **lithium** cpd.; (b) 1-40(3-30)% surface controlling cpd. of water solubility (20 deg. C) of 1/1-1/40 (w/w); (c)2-20(3-10)% erosion controlling cpd. of water solubility 1/1-1/10 (w/w); (d) 0.05-1.0(0.05-0.5)% surface activator disintegrating agent, the amt. being such that the cpd. is ineffective as a disintegrating agent; (e) 0.1-2.0(0.15-1.0)% surfactant; and, if necessary for tabletting purposes; (f) 1-20(1-5)% binder; or (g) 0.5-5.0(1-4)% die wall lubricant. Tablets formed from the compsn. are either spherical or have a thickness:diameter ratio which permits tablet erosion and penetration control sufficient for controlled surface erosion.
USE/ADVANTAGE-Slow, zero order rate release is attained without the need for layers, beads or enteric materials and without relatively insoluble polymers, waxes or gums, thus avoiding possible toxic effects due to long residence in the body, as can occur with sustained release formulations. Compsn. is esp. useful for admin. of 5-aminosalicylic acid (5-ASA), useful in treatment of ulcerative colitis and Crohn's disease, in which case the tablet is pref. enteric coated for maximum efficacy in the small and/or large intestine.
0/0
ABEQ EP 131485 B UPAB: 19930925
A solid, orally administerable pharmaceutical tablet composition from which the active ingredient has a slow, zero order release rate attained without layers, beads or enteric materials and without relatively insoluble polymers, waxes or gums when administered orally, said tablet being compressed to a hardness of 5-20 kg and being shaped so as to permit tablet erosion and penetration control, comprising an homogeneous, granulated mixture of: (a) an effective amount in the range of 10-90 wt.% of a pharmacologically active compound having a water solubility (20 deg.C) of less than 1/500 to 1/1000 (w/w); (b) 1-40 wt.% of a surface uniformity controlling compound which is pharmaceutically acceptable in oral compositions and has a water solubility (20 deg.C) of 1/1-1/40 (w/w); (c) 2-20 wt.% of an erosion controlling compound which is pharmaceutically

acceptable in oral compositions and has a water solubility of 1/1-1/10 (w/w); (d) an amount in the range of 0.05-1.0 wt.% of a surface activator which is a disintegrating agent for pharmaceutical compositions at which amount the compound is ineffective as a disintegrating agent; (e) 0.1-2.0 wt.% of a surfactant which is pharmaceutically acceptable in oral compositions, and, as necessary, for table manufacturing purposes; (f) 1-20 wt.% of a binder which is pharmaceutically acceptable in oral compositions; or (g) 0.5-5.0 wt.% of a die wall lubricant which is pharmaceutically acceptable in oral compositions; the pharmacologically active ingredient thus having a **slow**, zero order **release** rate when administered orally, and the pharmacologically active compound not being a **lithium** compound, and not being penny shaped or pancake shaped wherein the ratio of thickness to diameter is too small for erosion and penetration control.

ABEQ US 4690824 A UPAB: 19930925

A solid, orally administrable pharmaceutical table compsn. from which the active ingredient has a slow, zero-order release rate attained without layers, beads or enteric materials and without relatively insol. polymers, waxes or gums when administered orally, tablet being compressed to a hardness of 5-20 kg, and being either shaped as a sphere, or else with a ratio of tablet thickness to table dia. effective to permit tablet erosion and penetration control sufficient for controlled surface erosion thereof, comprising a homogeneous, granulated mixt. of: (a) an amt. of 10-90 wt.% of a pharmaceutically active cpd. with a water solubility (20 deg.C) of less than 1/560-1/1000 (w/w), (b) 1-40 wt.% of a surface controlling cpd. which is in oral compsns. and has a water solubility (20 deg.C) of1/1-1/40 (w/w); (c) 2-20 wt.% of an erosion controlling cpd. in oral comspns. and has a water solubility of 1/1-1/10 (w/w); (d) an amt. of 0.05-1.0 wt.% of a surface activator which is a disintegrating agent for pharmaceutical compsns. at which amt. the cpd. is ineffective as a disintegrating agent; (e) 0.1-2.0 wt.% of a surfactant in oral compsn. and as necessary for table mfg. purposes; (f) 1-20 wt.% of a binder in oral compsns. or (g) 0.5-5.0 wt.% of a die wall lubricant in oral comspn. the pharmacologically active ingredient thus with a **slow** zero-order **release** rate when administered orally, and the pharmacologically acitve cpd. not being a **lithium** cpd. and not being penny, or pancake-shaped wherein the ratio of thickness to dia. is too small for erosion and penetration control.

L6 ANSWER 133 OF 201 WPIDS (C) 2003 THOMSON DERWENT
AN 1984-082035 [14] WPIDS
DNC C1984-035053
TI Controlled-release, oral, multiple-unit pharmaceutical formulation - comprises unit of active cpd. coated with controlled release coating and second active cpd. adhered to coating.
DC A96 B07 P34
IN ROSWALL, S; THORHUS, L B
PA (BENA) BENZON AS ALFRED; (BENZ-N) BENZON PHARMA AS
CYC 18
PI AU 8317854 A 19840216 (198414)* 49p
NO 8302895 A 19840312 (198417)
EP 106443 A 19840425 (198418) EN
R: AT BE CH DE FR GB IT LI LU NL SE
DK 8203652 A 19840402 (198420)
FI 8302909 A 19840330 (198420)
JP 59062521 A 19840410 (198420)
US 4574080 A 19860304 (198612)
CA 1218305 A 19870224 (198713)
JP 62038323 B 19870817 (198736)
EP 106443 B 19910717 (199129)
R: AT BE CH DE FR GB
DE 3382341 G 19910822 (199135)
ADT AU 8317854 A AU 1983-17854 19830810; EP 106443 A EP 1983-304583 19830809; JP 59062521 A JP 1983-148684 19830813; US 4574080 A US 1983-523635 19830815
PRAI DK 1982-3652 19820813
AB AU 8317854 A UPAB: 19930925
Controlled-release, oral, multiple-unit, pharmaceutical formulation comprises units of an active cpd., coated with a water-insoluble but water-diffusable, controlled release coating and additionally having particles of an active substance adhered to the controlled release coating in a substantially uniform layer, these particles being at most one tenth the size of the coated active cpd. units. The active substance adhered to the controlled-release coated cpd. comprises at most 25 wt.% of the coated units; pref. at most 10%, esp. at most 2% and generally 0.5-1 wt.% of the coated units.

Used as a multi-unit dosage form comprising a combination of two active substances, one of which is diffusion coated. The term multiple unit indicates a multiplicity (usually at least 100) of individually coated or micro-encapsulated units. Provides a suitable release method, when the substance for instant release is present in relatively small proportions w.r.t. the **controlled release** substance. A typical prod. comprises 600 mg of **controlled release** KCl with 5 mg of instantly released clopamide diuretic or other diuretic. Active substances which are advantageously subject to **controlled release** include those having pH-dependent solubility (such as pindolol, **lithium** carbonate, acemetacin, vincamine, dipyridamol, theophyllin, dextro-propoxyphen, furosemide and hydralazin) and those which cause gastric, irritation (such as acetyl-salicylic acid and potassium chloride). Arrangement can also be used to administer two cpds. with significantly different half lives.
0/0

L6 ANSWER 134 OF 201 WPIDS (C) 2003 THOMSON DERWENT
AN 1982-09155J [50] WPIDS
TI Oral tablets for slow release of therapeutic agents - with controlled surface erosion due to tablet properties.
DC A96 B07
IN PATEL, V K; POWELL, D R
PA (ROWE-N) ROWELL LABS INC
CYC 2
PI US 4361545 A 19821130 (198250)* 17p
CA 1158979 A 19831220 (198404)
PRAI US 1981-258133 19810427
AB US 4361545 A UPAB: 19930915
Solid oral pharmaceutical tablet compsn. comprises a homogeneous granulated mixt. of (a) 10-90 wt.% of pharmacologically active agent (I) (with water solubility of 1:5-1:500 by wt. at 20 deg. C); (b) 1-40 wt.% surface controlling cpd. (with water solubility of 1:1-1:40 by wt. at 20 deg. C); (c) 2-20 wt.% erosion controlling cpd. (with water solubility of 1:1-1:10 by wt.); (d) 0.05-1 wt.% surface activator, (a disintegrating agent in normal pharm. compsns. but used at a concn. when this action is absent); (e) 0.1-2 wt.% surfactant; (f) 1-20 wt.% binder; and (g) 0.5-5 wt.% die wall lubricant. The mixt. is compressed to tablets of hardness 5-20 kg, and they are either spherical or have a ratio of tablet thickness to dia. sufficient for efficient tablet erosion and controlled surface erosion. (I) is not a Li cpd., and the tablets are not penny shaped or pancake shaped with a ratio of thickness to dia. too small for erosion and penetration control.

The (I) has a **slow** zero order **release** rate (attained without layers, beads or enteric material and without use of insoluble polymers, waxes or gums) on oral admin. of the tablets. The bio-availability of (I) can be maximised with min. side effects. The tablets can be formed reproducibly with conventional techniques. The prepn. of similar tablets contg. **Li2CO3** is described in US 4361545 (36186 D/20).

L6 ANSWER 140 OF 201 MEDLINE
AN 2002336115 MEDLINE
DN 22074121 PubMed ID: 12078335
TI A novel **slow-release** formulation of **lithium** carbonate (Carbolithium Once-A-Day) vs. standard Carbolithium: a comparative pharmacokinetic study.
AU Castrogiovanni P
CS Department of Neuroscience, Psychiatry Section, University of Siena, Siena, Italy.. castrogiovanni@unisi.it
SO CLINICA TERAPEUTICA, (2002 Mar-Apr) 153 (2) 107-15.
Journal code: 0372604. ISSN: 0009-9074.
CY Italy
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020625
Last Updated on STN: 20020817
Entered Medline: 20020816
TI A novel **slow-release** formulation of **lithium** carbonate (Carbolithium Once-A-Day) vs. standard Carbolithium: a comparative pharmacokinetic study.
AB PURPOSE: The purpose of the study was to establish if the administration of a new **slow-release** formula of **lithium** carbonate (Carbothium Once-A-Day, 600 mg) administered once-daily could deliver plasma **lithium** levels during the first 24 hours similar to those obtained with two standard release Carbolithium 300 mg capsules administered 12 hours apart. PATIENTS AND METHODS: Eighteen healthy subjects of both sexes aged 18 to 55 were randomized to administration of either: [a] a single capsule of Carbolithium Once-A-Day (600 mg), or [b] standard Carbolithium 300 mg b.i.d. Subjects were crossed over following a 15-day washout period. Blood samples were taken 1, 2 4, 6, 8, 10, 12, 16, 20, 24, 36, 48, 72, and 96 hours post-drug administration and analyzed with spectrometry and atomic absorption to detect Li+ plasma concentration. RESULTS: Data for individual subjects are reported as disjointed numerical values and as individual graphs in the paper. Mean AUC values were 3.01 mM-hours for standard Carbolithium vs. 3.53 mM-hrs for Carbolithium Once-A-Day, and respective mean levels across 96 hours were 0.214 +/- 0.107 vs. 0.252 +/- 0.097 mM. For the first 24 hours, mean AUC values were 2.64 for Carbolithium vs. 3.03 mM-hours for Carbolithium Once-A-Day, and corresponding means were 0.264 vs. 0.303 mM. CONCLUSION: Carbolithium Once-A-Day was associated with marked reduction of the peak/trough ratio compared to standard release Carbolithium. Given the low therapeutic index of lithium, the maintenance of constant therapeutic concentrations under toxic limits is an essential characteristic of any clinically useful formulation. Furthermore, from the data obtained in the present study it is predicted that, for the majority of patients, a single dose of Carbolithium Once-A-Day will be sufficient to provide therapeutic concentrations of lithium for 24-hour periods. Even the few subjects who will require a double dosage with the Once-A-Day formulation will certainly experience less variations of Li+ plasma concentration throughout the day than would patients receiving rapid release formulations of lithium.

L6 ANSWER 151 OF 201 MEDLINE
AN 94211894 MEDLINE
DN 94211894 PubMed ID: 8159780
TI Liberation of **lithium** from **sustained release** preparations. A comparison of seven registered brands.
AU Heim W; Oelschlager H; Kreuter J; Muller-Oerlinghausen B
CS Biochemistry, Pharmacy and Food Chemistry Division, Johann Wolfgang Goethe-University, Frankfurt am Main, Germany.
SO PHARMACOPSYCHIATRY, (1994 Jan) 27 (1) 27-31.
Journal code: 8402938. ISSN: 0176-3679.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199405
ED Entered STN: 19940526
Last Updated on STN: 19940526
Entered Medline: 19940519
TI Liberation of **lithium** from **sustained release** preparations. A comparison of seven registered brands.
AB We investigated the rate of release of seven commercial **lithium** preparations designated as **sustained-release** preparations and available in Europe and the USA. The examined products release lithium completely within four hours. The rate of liberation from three drugs resembles that of nonsustained-release preparations, three of which were tested under the same conditions. In one case, the comparison between two batches of sustained-release preparations reveals marked differences in quality. Physicians should be aware that some drugs available on the market and designated as sustained-release preparations do not comply with the international standard for this type of formulation.

L6 ANSWER 158 OF 201 MEDLINE
AN 90084787 MEDLINE
DN 90084787 PubMed ID: 2512655
TI A comparative study of standard and **slow-release** oral **lithium** carbonate products.
AU Wallis J; Miller R; McFadyen M L; Carlile J B
CS Department of Clinical and Experimental Pharmacology, University of Natal, Durban.
SO SOUTH AFRICAN MEDICAL JOURNAL, (1989 Dec 2) 76 (11) 618-20.
Journal code: 0404520. ISSN: 0038-2469.
CY South Africa
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199001
ED Entered STN: 19900328
Last Updated on STN: 19900328
Entered Medline: 19900119
TI A comparative study of standard and **slow-release** oral **lithium** carbonate products.
AB **Lithium** serum levels were drawn over one steady-state dosing interval in 8 bipolar disorder patients receiving long-term **lithium** therapy: (i) after standard-release **lithium** (STD); and (ii) after changing to 2 weeks' continuous dosing of a **slow-release** (SR) preparation. Rate of absorption of the SR preparation was significantly slower than the STD preparation measured by the peak/trough difference, percentage peak/trough fluctuation and percentage swing. The extent of absorption measured by the area under the concentration time curve was not significantly different for the two preparations. Serum lithium levels drawn within 2 hours after administration of the SR preparation are likely to be within the range 0--18% of the 12-hour standard serum lithium with a 95% limit of confidence. The STD preparation shows a deviation in the same period of -14.5-70%. These results suggest that if a patient taking the SR preparation presents within 2 hours after administration a serum lithium level would still be meaningful, whereas for a patient taking the STD preparation it is essential that blood be drawn 12 hours after administration for meaningful interpretation.

L6 ANSWER 100 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1981:467946 CAPLUS
DN 95:67946
TI **Slow release lithium** carbonate tablets
AU Saxena, M. J.; Jayaswal, S. B.
CS Inst. Technol., Banaras Hindu Univ., Varanasi, 221005, India
SO Indian Drugs (1981), 18(5), 172-4
CODEN: INDRBA; ISSN: 0019-462X
DT Journal
LA English
TI **Slow release lithium** carbonate tablets
AB A **slow-release Li2CO3** tablet was prepd. from a formulation contg.: **Li2CO3** 400, carnauba wax 133, stearyl alc. [112-92-5] 133, Mg stearate 6.66, talc 12.3, and potato starch 33.3 mg. The release rate of Li from the tablet was 50 mg/h. Tablets contg. bees wax instead of carnauba wax had a release rate of 44 mg/h.
ST **lithium** carbonate tablet **slow release**; carnauba wax **slow release lithium**; beeswax **slow release lithium**
IT Digestive tract
(**lithium** carbonate absorption by, from **slow-release** tablets)
IT Beeswax
Carnauba wax
(**slow-release lithium** carbonate tablets contg.)
IT 112-92-5
RL: BIOL (Biological study)
(**slow-release lithium** carbonate tablets contg.)

L6 ANSWER 47 OF 201 CAPLUS COPYRIGHT 2003 ACS
AN 1991:663226 CAPLUS
DN 115:263226
TI Stability of bioavailability of **lithium** carbonate **controlled-release** tablets formulated in a carboximethylcellulose hydrophilic matrix
AU Arancibia, A.; Flores, P.; Pezoa, R.
CS Dep. Cienc. Tecnol. Farm., Univ. Chile, Santiago, Chile
SO Acta Farmaceutica Bonaerense (1990), 9(1), 21-7
CODEN: AFBODJ; ISSN: 0326-2383
DT Journal
LA Spanish
TI Stability of bioavailability of **lithium** carbonate **controlled-release** tablets formulated in a carboximethylcellulose hydrophilic matrix
AB The relative bioavailability of **lithium** carbonate **controlled-release** tablets formulated in a CM-cellulose hydrophilic matrix, maintained in storage at room temp. during one year, in comparison with conventional tablets manufd. recently, was studied in humans. No statistically significant differences were found between the two **lithium** prepns., which suggest a good stability of the bioavailability of the **controlled release** tablet and its storage at room temp. does not affect the in vivo release of **lithium**.
IT Drug bioavailability
(of **lithium** carbonate, from **controlled-release** tablets, stability of)
IT Pharmaceutical dosage forms
(tablets, **controlled-release**, **lithium** carbonate bioavailability from, stability of)
IT 554-13-2, **Lithium** carbonate
RL: PROC (Process)
(bioavailability of, from **controlled-release** tablets, stability of)

AN 1975:536937 CAPLUS
DN 83:136937
TI Pharmaceutical lithium diacid salts
IN Aries, Robert
PA Fr.
SO Fr. Demande, 7 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2244485	A1	19750418	FR 1973-28939	19730806 <--
	FR 2244485	B1	19770902		
PRAI	FR 1973-28939		19730806		

AB Li alkylenedicarboxylates, [e.g., lithium adipate (I) [18621-94-8], lithium succinate [29126-50-9], lithium glutamate [32253-37-5], lithium tartrate [868-17-7]], are utilized in the treatment of various psychoses, esp. manic depression. Thus, a capsule may contain I 56, anhyd. glucose 17, and silica gel 3 mg; this capsule contains approx. 5 mg/Li.

=>

For 1g

73.6% = 737 mg

Li Salt = 56 mg — 22.4% — 224 mg

Glucose = 17 mg — 4.0% — 40 mg

Silicagel = 3 mg — 1 g — 1,000 mg

76 mg

2 | 02 → 1,2

WEST

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L1: Entry 3 of 4 File: DWPI May 23, 1975

DERWENT-ACC-NO: 1975-43085W
DERWENT-WEEK: 197526

TITLE: Lithium dicarboxylic acid salts - in compositions for treatment of psychoses, esp. manic depression

PATENT-ASSIGNEE:

ASSIGNEE	CODE
ARIES R	ARIE

PRIORITY-DATA: 1973FR-0028939 (August 6, 1973)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
FR 2244485 A	May 23, 1975		000	

INT-CL (IPC): A61K 31/19

ABSTRACTED-PUB-NO: FR 2244485A
BASIC-ABSTRACT:

Compsns. contg. (A) at least one lithium salt of dicarboxylic acid of formula HOCC - Z - COOH (I) (where Z = a divalent hydrocarbon group of 1-8C atoms, which may be straight or branched, saturated or ethylenic, and which may carry one or two substituents selected from hydroxy and amino groups) and (B) a pharmaceutically-acceptable adjuvant, are useful in the treatment of psychoses, esp. manic depression.

TITLE-TERMS: LITHIUM ACID SALT COMPOSITION TREAT PSYCHOSIS MANIC DEPRESS

DERWENT-CLASS: B05

CPI-CODES: B05-A01B; B10-B01B; B10-B02B; B10-C02; B12-C05; B12-C10;

CHEMICAL-CODES:

Chemical Indexing M2 *01*
Fragmentation Code
J1 M311 M312 M313 M314 M315 M332 M331 M334 M333
M321 M280 M342 M340 M343 M344 M380 M391 A103 A960
C710 A137 A155 H181 H182 H183 J172 J173 H401 H481
H482 H483 H484 M620 H721 M630 M510 M520 P446 P448
P440 M530 M540 M781 R000 M411 M902

Adonis

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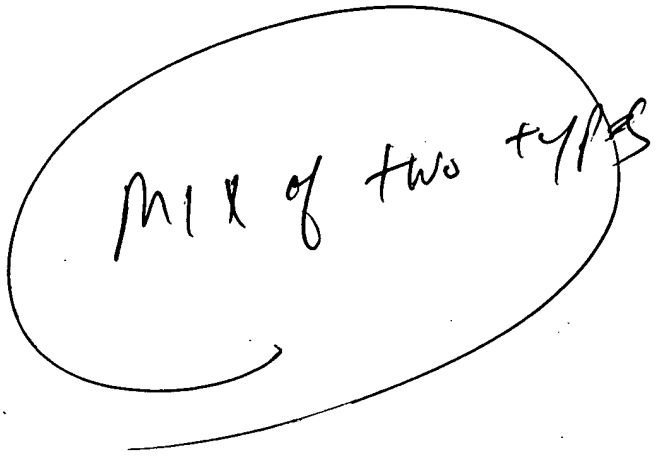
Ordered 6/27/03

AN 1990:241340 CAPLUS
DN 112:241340
TI Formulation and in vitro-in vivo evaluation of **sustained-release lithium** carbonate tablets
AU Ciftci, Kadriye; Capan, Yilmaz; Ozturk, Orhan; Hincal, A. Atilla
CS Fac. Pharm., Univ. Hacettepe, Ankara, Turk.
SO Pharmaceutical Research (1990), 7(4), 359-63
CODEN: PHREEB; ISSN: 0724-8741
DT Journal
LA English
TI Formulation and in vitro-in vivo evaluation of **sustained-release lithium** carbonate tablets
AB The release of Li2CO3 incorporated into poly(Me methacrylate), PVC, hydrogenated vegetable oil, and Carbomer matrix tablets was studied in vitro. The formulation contg. 10% Carbomer showed a **sustained-release** profile comparable to that of a std., com. available, **sustained-release** prepn. contg. 400 mg **Li2CO3** embedded in a composite material. In vivo, the newly formulated and std. **sustained-release Li2CO3** tablets were compared to an oral soln. and conventional **Li2CO3** in 12 healthy subjects. These crossover studies showed that the sustained-release tablets produced a flatter serum concn. curve than the oral soln. and conventional tablet, without loss of total bioavailability.

Eurasia

L6 ANSWER 139 OF 201 MEDLINE
AN 2003186955 MEDLINE
DN 22591670 PubMed ID: 12705093
TI **Lithium** carbonate 24-hour **extended-release** capsule filled with 6 mm tablets.
AU Pietkiewicz P; Sznitowska M; Dorosz A; Lukasiak J
CS Department of Pharmaceutical Technology, Medical University, Gdansk, Poland.
SO BOLLETTINO CHIMICO FARMACEUTICO, (2003 Mar-Apr) 142 (2) 69-71.
Journal code: 0372534. ISSN: 0006-6648.
CY Italy
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200305
ED Entered STN: 20030423
Last Updated on STN: 20030520
Entered Medline: 20030519
TI **Lithium** carbonate 24-hour **extended-release** capsule filled with 6 mm tablets.
AB A 24-h **extended-release** multiparticulate capsule containing a dose of 500 mg of **lithium** carbonate divided into 6 tablets 6 mm in size was produced. In order to achieve an immediate and prolonged drug release profile one uncoated tablet and 5 tablets coated with methacrylic acid/ethyl acrylate copolymer Kollicoat MAE30DP were filled into a capsule. The core of tablets consisted of microcrystalline cellulose, lactose, povidone, macrogol and magnesium stearate.



Date no Good